



REMARKS

RECEIVED
MAY 21 2001
TECH CENTER 1600/2900

Rejections Under 35 U.S.C. § 101

Claims 10, 14, 18, 23, 27, and 31 stand rejected under 35 U.S.C. § 101. The Examiner states that the claimed invention is directed to nonstatutory subject matter. The Examiner notes that the claims are drawn to a “maize plant breeding program” which comprises the ideas behind each choice of cross or self pollination. The Examiner concludes that the claims should be amended to read directly the methods of the breeding program which are practical applications of these ideas. Each of claims 10, 14, 18, 23, 27, and 31 have been amended to properly refer to a “method” rather than a breeding program, alleviating the Examiner’s rejections. It is submitted that these claims now comply with proper process claim format.

Rejections Under 35 U.S.C. § 112 First Paragraph

Claims 1-32 remain rejected under 35 U.S.C. § 112 first paragraph, the Examiner next reiterates the requirements for the statement of deposit in a specification. With regard to deposit of Hybrid 38T27, Applicant wishes to note that:

- a) during the pendency of this application access to the invention will be afforded to the Commissioner upon request;
- b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;
- c) the deposit will be maintained in a public depository for a period of thirty years, or five years after the last request for the enforceable life of the patent, whichever is longer;
- d) a test of the viability of the biological material at the time of deposit will be conducted (see 37 C.F.R. § 1.807); and
- e) the deposit will be replaced if it should ever become inviable.

Applicant wishes to state that the actual ATCC deposit will be delayed until the receipt of notice that the application is otherwise in condition for allowance. Once such notice is received, an ATCC deposit will be made, and the claims will be amended to recite the ATCC deposit

number. In addition, Applicant submits that at least 2,500 seeds of Hybrid 38T27 will be deposited with the ATCC.

Issues Under 35 U.S.C. § 112 Second Paragraph

Claims 1-12 stand rejected under 35 U.S.C. § 112, second paragraph, "as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." Claims 1-12 stand rejected for being "incomplete in the recitation of the limitation 'representative seed having been deposited under ATCC accession number _____' as found in claims 1, 5 and 7 and in the claims that depend therefrom." The Examiner states that "In the interest of compact prosecution Applicants may refrain from amending the claim until the time of the actual deposit as set forth in 37 CFR 1.801-1.809." Applicant respectfully submits that a deposit will be delayed until notice of otherwise allowable claims as provided under 37 C.F.R. § 1.809. Once notice of allowable claims has been received by Applicant, a deposit will be made with the ATCC and the claims will be amended to recite the accession number.

Claims 12-15 and 25-28 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner asserts the term 'transgene' fails to set the metes and bounds of the invention as the term does not carry with it any limitation as to the structural or physical properties of the DNA."

Applicant respectfully traverses this rejection. As noted by the Examiner the specification supplies an extensive definition and description of 'transgene' and transgenes of interest. (See generally pages 22-32 and pages 28-32 for an extensive list of potential transgenes.) As also noted by the Examiner, a person having skill in the art could insert a rDNA gene into a selected maize plant. The Examiner also states that the insertion of a single copy of a gene into a plant would produce a plant that is indistinguishable from its non-transformed plant. Applicant has defined transgenes in the present application on page 22 line 32 through page 23 line 5 as follows:

With the advent of molecular biological techniques that have allowed the isolation and characterization of genes that encode specific protein

products, scientists in the field of plant biology developed a strong interest in *engineering the genome of plants to contain and express foreign genes, or additional genes* (perhaps driven by different promoters) in order to alter the traits of a plant in a specific manner. *Such foreign, additional and/or modified genes are referred to herein collectively as "transgenes"*. Over the last fifteen to twenty years several methods for producing transgenic plants have been developed, and *the present invention, in particular embodiments, also relates to transgenic versions of the claimed hybrid 38T27*.

(emphasis added) The present application clearly describes and defines a transgene to be a gene transferred into a plant wherein the product of that gene is expressed. This expression will confer a new or improved trait into that plant. However, as the Examiner has noted this gene is but a tiny fraction of the entire genome. In other words, the plant of claims 12-15, and 25-28 is distinguishable from the prior art plants just as is hybrid 38T27 without the transgenes. Further, the plant of each of these claims also contains a trait(s) that is either improved or additional to the traits of the reference maize plant. The 38T27-transgene plant still expresses the unique combination of traits of 38T27 without the transgenes with the exception of the traits expressed by the transgenes. The trivial modifications introduced by the transgenes to the unique invention of 38T27 are clearly supported and described in the present application.

In light of the above remarks, Applicant respectfully requests reconsideration and withdrawal of the rejection to claims 12-15, and 25-28 under 35 U.S.C. § 112, second paragraph.

Claims 8 and 21 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner notes that the claims read on maize hybrid 38T27 wherein the plant is male sterile. The Examiner notes that the claim directed to a plant which has male sterility introduced and thus one of skill in the art would be unable to determine the metes and bounds of the claim based upon the number of ways that male sterility could be introduced.

Applicant respectfully traverses and requests reconsideration. Applicant submits that male sterility may be introduced any way known in the art to satisfy this claim. Applicant has gone into great detail in the specification to describe the different ways that male sterility may be introduced and the claim is intended to encompass any of these ways. At pages 2-3 there is a

detailed description of the many methods available for creating male sterile plants including mechanical, CMS, genetic male sterility and even the use of gametocides. As stated in the specification at page 3, "There are many other methods of conferring genetic male sterility in the art, each with its own benefits and drawbacks. "It is the use of the novel hybrid with its unique set of traits in the formation of a male sterile version that is claimed. Thus the particular means used to achieve male sterility is not critical, it is the use of the starting material, namely hybrid 38T27 that is the invention claimed.

Claims 11, 15, 19, 24, 28, and 32 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner notes that the claims are indefinite because they are drawn to plants, "wherein at least one ancestor" is the instant maize plant and which plant is "expressing a combination of at least two 38T27 traits" from a Markush group of traits. The Examiner concludes "As claimed the traits are not necessarily inherited from 38T27; the traits could arise in 38T27-derived lines from the genetic material inherited from other parents in their ancestry and just happen to be phenotypically similar to the traits of the 38T27 line". Applicant respectfully traverses and requests reconsideration. Each of these claims recites two requirements, first that 32G98 be an ancestor of the plant and second that the claimed plant be "capable of expressing a combination of at least two 38T27 traits" selected from a Markush grouping. Applicant notes that the Markush listing is not directed to "traits" but to "38T27 traits" thus applicant submits that the recitation of 38T27 traits clearly delineates the traits listed as those which are from 38T27. The recitation of "38T27" in front of the term traits clearly indicates that the traits must be those originating from 38T27. This is particularly so since the claim also requires that the plant 38T27 must be an ancestor of the claimed plant. Reconsideration is respectfully requested.

Issues Under 35 U.S.C. § 102/103

Claims 11, 15, 19, 24, 28, and 32 stand rejected under 35 U.S.C. § 102/103 as anticipated by or in the alternative as obvious over Luedtke, Jr. et. al. The Examiner notes that the claims are directed to having 38T27 as an ancestor and expressing two or more "38T27" traits. The

Examiner indicates that Luedtke, Jr. et. al teaches a maize plant with two or more "38T27" traits, noting that the maize plant 3905 comprises outstanding yield, good dry down, exceptional head smut resistance, Goss' wilt resistance, and Northern leaf blight resistance. The examiner thus concludes "one of skill in the art would be unable to distinguish the plants encompassed by the instant claims from the prior art cultivar".

Applicant respectfully traverses and requests reconsideration. Applicant submits that the claim does not simply recite traits, such as Goss' wilt resistance, or Northern leaf blight resistance, but instead recites these specific traits only to the extent that they are "38T27" traits. The claim also recites that the claimed plant must have 38T27 as an ancestor further indicating that these traits must originate from the 38T27 plant. In response to the Examiner's contention that one could not distinguish the claimed plant from the prior art which shows each of these traits, applicant submits that one can easily tell by reference to the plants breeding history or its molecular profile whether the plant did indeed have plant 38T27 as an ancestor and expressed two or more "38T27" traits. Further, any phenotypic trait that is expressed is a result of a combination of all of the genetic material present in the plant, and 38T27 will have its own unique genetic profile that it will contribute to a breeding program. This unique genetic background will that result in the claimed plant and this profile along with its combination with other plants will result in a unique combined genetic profile that is the product claimed. The resulting plant will not just have traits, but "38T27" traits which will be a unique combination of genetic material.

CONCLUSION

In conclusion, Applicant respectfully requests reconsideration.

No fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Applicant has not submitted a marked-up version of the changes made to the specification and claims by the current amendment as no changes were made.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Heidi S. Nebel". The signature is fluid and cursive, with the first name "Heidi" being more prominent than the last name "Nebel".

Heidi S. Nebel, Reg. No. 37,719

ZARLEY, McKEE, THOMTE, VOORHEES
& SEASE

801 Grand Avenue, Suite 3200

Des Moines, Iowa 50309-2721

Phone No. (515) 288-3667

Fax No. (515) 288-1338

CUSTOMER NO: 27142

Attorneys of Record

- pw -